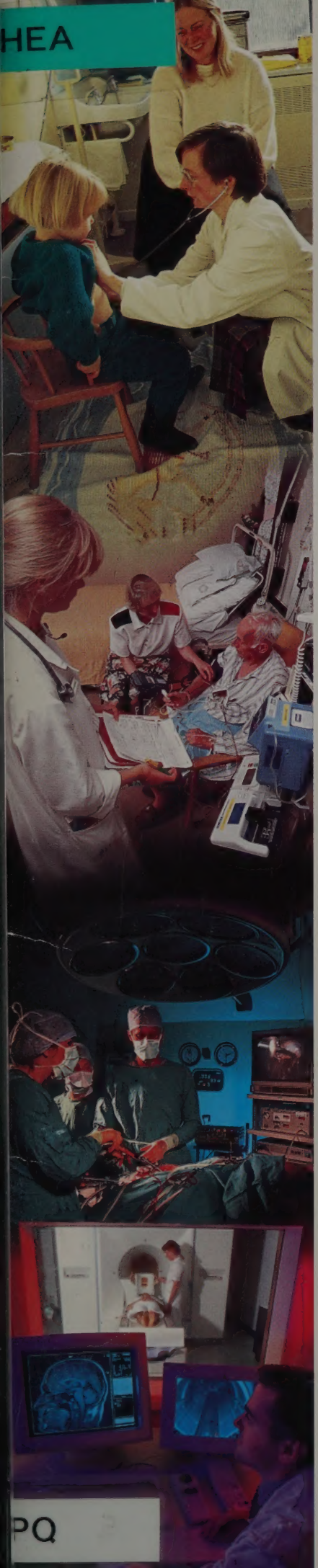


DEPARTMENT OF HEALTH

Standing Group on Health Technology:

1994 Report

FOREWORD

The use of research methods to measure the benefits – or otherwise – of interventions designed to prevent ill health or to diagnose and treat established illness is of central importance to health services and to public health more generally. Yet this activity has languished as the poor relation of medical research. Remarkably, it has taken 45 years for the NHS to set in place the mechanisms necessary to assemble a description of health practice methods and to develop plans and methods for the critical assessment of their usefulness.

The Standing Group on Health Technology therefore fulfils a crucial function, not only advising on priorities for evaluation but also providing a focal point for scanning growth areas in science and technology alerting the NHS to incipient developments of potential practical importance.

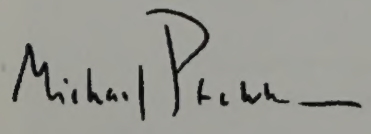
This first report is a significant milestone for the health service. It demonstrates what can be achieved when professional staff, managers and researchers collaborate in order to identify research priorities relevant to NHS requirements.

Striking and dramatic advances such as the cure of Hodgkin's disease, joint replacement surgery and organ transplantation are, of course, part of a much more extensive inventory of health practice methods, most of which have not been subject to formal evaluation. The consequent lack of information on the costs and effectiveness of health technologies hinders the health service. Where such information is lacking, choices between contending options have an insecure basis, and idiosyncratic decisions are too readily defensible and difficult to criticise.

It is important to emphasise that health technology assessment does not constrain innovation. On the contrary, by pinpointing valuable new developments it facilitates their use and provides the basis for releasing resources unnecessarily consumed by trivial and non-contributory methods.

The creation of a mechanism within the NHS for health technology assessment is a significant event not only for the service itself but for industry, researchers and research funding bodies, the universities and for Government. It should not be seen in isolation as a purely national endeavour since a common international interest concerns many aspects of the programme.

At this relatively early stage of the programme, the likely future impact on the NHS of clinical practice based on the results of health technology assessment cannot be quantified with any precision. The extent of change will become increasingly clear as the national programme of health technology assessment gains momentum and the results are incorporated into routine practice. What is certain is that the impact will be both substantial and beneficial.



Michael Peckham
Director of Research and Development

June 1994

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INTRODUCTION

Health technology assessment is about to form the single largest portfolio of work within the NHS Research and Development Programme. Described as the centrepiece of the programme, the prominence given to health technology assessment reflects the growing demand for greater evidence on the costs and effectiveness of the vast range of interventions performed throughout the service.

The scope of health technology assessment is broad. The term 'health technology' is used to describe any method used by health professionals to promote health, prevent and treat disease, and improve rehabilitation and long-term care. Thus, it covers a very wide and diverse range of health professionals from, for example, ITU nurse to GP, from laboratory technical staff to physiotherapist. It includes equipment and procedures from MRI scanners, laparoscopic surgery and gene therapy to sphygmomanometers, counselling and painkillers. However, the potential offered by health technology assessment lies not simply in its scope but in the questions it poses and answers. It assesses the effectiveness of health technologies in terms of their costs, outcomes, acceptability to patients and society, as well as the appropriate indications for their use.

Doctors, nurses, managers and others working in the NHS aim to provide high-quality care, employing the best approaches for improving health, yet they are conscious of the uncertainty which surrounds the appropriateness and cost-effectiveness of many of the interventions routinely employed. In addition, they are constantly faced with decisions about the adoption of new technologies. Within the finite resources available it is essential that time and money are not wasted on ineffective interventions and that effective interventions are fully exploited. An Executive Letter[1] issued last December was an important step towards this goal. The Letter drew attention to existing evidence on clinical effectiveness and the NHS health technology assessment programme, indicating how this information should be incorporated into clinical practice and contracting. Such initiatives are constrained by the shortage of good research-based evidence. There is an imperative to fill this vacuum and health technology assessment is the means to this end.

As with healthcare, Research and Development (R&D) resources are finite. It is therefore important that research funds are applied to areas where the returns will be of the greatest benefit to both the NHS and patients. One of the key roles of the Standing Group on Health Technology is to advise on national priorities for health technology assessment. A major programme of new work is now being commissioned from the first set of priorities it has identified.

[1] Executive Letter (93) 115 'Improving Clinical Effectiveness', NHS Management Executive

'A new layer of bureaucracy? A brake on progress and innovation? A restriction of clinical freedom? I suppose that to some the vigorous appraisal involved in health technology assessment can be seen as all of these. Were this to be the case, I would not have wished to be associated with the exercise.

'On the contrary, I believe health technology assessment is an opportunity to increase the importance attached to health services research in general and bring it on an equal footing to biomedical research.

'The relevance and respectability of such research was established over 200 years ago by John Hunter, the founder of scientific surgery. It was said of him that "In the practice of surgery, where cases occurred in which the operations proved inadequate to their intention, he always investigated the cause of that want of success, and in his way detected many fallacies as well as made some important discoveries in the healing art".

'Health technology assessment gives all who work in the National Health Service, not just academics, the opportunity to appraise existing procedures over which there is uncertainty, as well as to evaluate new technologies as they become available. The knowledge obtained will give us confidence in the treatments we employ and ensure logical, high quality and effective dissemination of findings.'

Miles Irving

Director of the NHS HTA programme; Chair of the Standing Group on Health Technology; and Professor of Surgery, University of Manchester

STANDING GROUP ON HEALTH TECHNOLOGY

The NHS R&D strategy was launched in 1991 with the aim of creating a research-based health service in which reliable and relevant information is used to make decisions on health policy, clinical practice and management of services[1]. In order to identify R&D needs, NHS activity is being reviewed by the Central Research and Development Committee (CRDC) from six perspectives: disease-related problems; management and organisational issues; problems related to specific client groups; consumer issues; health technologies; and research methodologies. Within these perspectives, expert advisory groups are convened to consider key areas in detail.

The importance of health technology assessment was emphasised by the report **'Assessing the Effects of Health Technologies'**[2]. This report, prepared by an advisory group to the Department of Health's Director of Research and Development, provided many examples of practice variation; use of ineffective and even harmful technologies; and poor adoption of technologies with proven benefit. It outlined the need for development of methods for performing assessments and for effective dissemination of findings. This view was reinforced by an ACOST study **'Medical Research and Health'**[3].

Following this report, the CRDC convened a Standing Group on Health Technology, chaired by Professor Miles Irving, Professor of Surgery at the University of Manchester and Regional Director of Research and Development for NW Regional Health Authority. The Standing Group includes experts in the delivery and assessment of interventions, purchaser and provider managers and scientists able to advise on future developments. Its task is summarised below:

- to identify and prioritise technologies in need of assessment;
- to identify and prioritise the need for R&D in methods used for health technology assessment;
- to advise where there is a particular need to control diffusion of a technology until more information becomes available;
- to identify emerging technologies likely to have major implications for the NHS.

[1] 'Research for Health'. Department of Health, 1993
[2] 'Assessing the Effects of Health Technologies: principles, practices, proposals'. Department of Health, 1992
[3] 'Medical Research and Health'. HMSO, London, 1993

The terms of reference of the Standing Group on Health Technology are given in Annex 1 .

Its task is as challenging as it is important. As it is clearly not possible to bring together all the necessary expertise in a single group, the Standing Group has convened six Advisory Panels. Five of these Panels identify the need for assessment of technologies in specific areas of healthcare, whilst the sixth Panel, the Methodology Panel, identifies the need for work to develop the methods used in performing assessments. Each Panel is chaired by a member of the Standing Group. The full membership of the Standing Group and all its Panels is at Annex 2.

Dividing the whole of healthcare between five Panels presents a substantial challenge in itself. The approach adopted was to form two Panels which covered the two broad areas of healthcare provision – i.e. primary and community care on the one hand and secondary and tertiary care on the other – and then to identify groups of technology which may span this boundary and are of sufficient importance to merit special attention. This led to the formation of the following five Panels:

- Primary and Community Care Panel;
- Acute Sector Panel;
- Pharmaceutical Panel;
- Diagnostics and Imaging Panel;
- Population Screening Panel.

All the Panels work together to minimise overlap whilst ensuring comprehensive coverage of the whole of healthcare.

Having established a framework for setting priorities, the Standing Group adopted the method of working used by other CRDC advisory groups. This comprises three key stages. The first is to identify the problems facing the NHS within the areas being considered. These problems are then translated where possible into topics suitable for research. The final stage is to agree the relative priorities of these topics in order to guide the subsequent commissioning of work.

Criteria for setting priorities

What are the benefits from an assessment *in terms of:*

- improved outcomes for patients including acceptability/quality of life/effectiveness;
- improvements in (population-based) cost-effectiveness to NHS;
- better targeting of services;
- methodological gains through performing assessment?

How long might it be before benefits could be realised *bearing in mind:*

- time needed to perform assessment;
- time needed to bring about change in practice?

Would the assessment be likely to offer value for money?

How important is an *early* assessment with reference to:

- the cost of not doing the assessment now (or in the immediate future);
- the likely level of demand and time trend of use;
- the need for assessment to be performed 'now or never'?

Are there any other factors relating to the technology which might have a bearing on the importance of performing the assessment, such as:

- Health of the Nation or other policy considerations;
- prevalence of the disease/ condition;
- social-ethical considerations?

IDENTIFYING PRIORITIES FOR HEALTH TECHNOLOGY ASSESSMENT

Identifying problems

The Standing Group conducted widespread consultation within the NHS, and with professional organisations, the research community and bodies representing the interests of patients and industry. This led to an avalanche of suggestions for assessments – over 1,300 during the five-month period – a clear indication of the pressing need for better information on cost-effectiveness.

Translating problems into researchable topics

The Panels reviewed the material from this consultation in order to identify problems which could be solved through research, as opposed to problems which, for example, called primarily for managerial or organisational changes. The Panels also considered whether there were any further areas where assessments could be of benefit, paying particular attention to the mass of established technologies in routine use but for which there is little or no clear evidence of effectiveness or cost.

Setting priorities

The Standing Group developed a set of criteria against which the range of research questions posed, and the variety of work they demanded, could be prioritised. These criteria are shown in the panel on page 5. The central principle is that priority should relate to the benefit, judged on a population basis, likely to result from assessing a technology. The panel on page 7 illustrates how these criteria were applied in practice.

Potential benefits of an assessment may include more effective use of resources for the NHS, improved outcomes and increased quality of life for patients. But these benefits cannot be considered in the abstract. In addition to judging the size and scope of the potential benefits, it is necessary to consider the probability of realising them. For example, the time needed to perform an assessment and the time needed to bring about the appropriate change in practice have to be taken into account. The value for money of performing the assessment also needs to be considered. In some cases, a small study to produce the last piece in a jigsaw may represent greater value for money than beginning to piece together a new puzzle.

Applying the priority-setting criteria

When identifying priorities for HTA the Standing Group had first to agree whether there was a need for the assessment; then to judge the benefits of that assessment; and finally to consider its value for money.

Identifying the need for an assessment

One priority topic is concerned with the assessment of current methods for total hip replacement. The need for this assessment is demonstrated by the variation in outcome, the uncertainty surrounding the appropriate choice of hip prosthesis and the fact that the number of procedures, where the prosthesis is replaced, is increasing. At the moment 18 per cent of the expenditure on hip replacements is on revision surgery.

Judging the benefits of performing the assessment

The Standing Group judged the benefits from performing the assessment to be twofold. For the patient, there is the potential for improved outcome both in terms of a longer life for the prosthesis and reduced morbidity through the avoidance of revision surgery. For the NHS, the benefits include the potential to reduce the number of revision procedures, thus enabling more primary procedures to be performed and waiting lists to be reduced. The Standing Group considered potential barriers to realising these benefits. If prosthesis design is a key causal factor, brand loyalty could be a barrier. If outcome is shown to depend on surgical supervision, or grade of staff, barriers could include resource implications. On balance, the benefits from such an assessment were judged to be high.

Judging the value for money of the assessment

The current cost of revision surgery to the NHS is estimated to be more than £26 million per year. Thus, the Standing Group judged that if an assessment was able to produce even a small reduction in revision surgery this would represent a good return on the cost of funding a study.

'I think that there are three aspects to the work of the Standing Group on Health Technology which make it of significance to the NHS and its users as a whole.

First, it's a real attempt to ensure that new investments in health technology – whether people, equipment or drugs – are based on evidence of cost-effectiveness.

The second is that the definition of cost-effectiveness adopted by the Standing Group moves away from one predominantly concerned with the success of a health technology in an ideal setting, to look at its day-to-day use in the NHS. Furthermore, this definition encompasses issues such as the acceptability of a particular intervention to patients and its possible ethical and social consequences.

The final thing is the way in which the Standing Group works. The input from those who work in, and use, the service is central to the initiative. The Standing Group takes the problems and uncertainties that are raised through consultation and from them identifies areas of consensus and the researchable questions. In doing this, I believe the Standing Group is empowering all of us and will change the way we make decisions about healthcare.'

Sheila Adam
Director of Public Health
N W Thames RHA

Priorities for health technology assessment

The panel on page 9 shows how the Standing Group and its Panels used the criteria to arrive at a ranked list of 26 topics for which the need for better information on cost-effectiveness is greatest. These are set out in the panel on pages 12–13. Further topics agreed to be of high priority, but not ranked, are at Annex 3.

In the short space of time over which this exercise was conducted, the Standing Group and its Panels had to rely heavily on submitted evidence and their own expert judgement to identify priorities from the huge number of studies of potential value. The list of priorities is not complete or definitive. It is the Standing Group's initial view of which health technology assessments would be of most value to the NHS. Many topics not included on the list would also prove very valuable. Priorities will change as new technologies and new evidence emerge. The Standing Group will be reviewing priorities each year in the light of such developments and feedback from those working in the NHS.

In future years, the Standing Group will be asking its scientific secretariat to prepare more systematic information on the use and costs of different technologies to inform the priority setting process. A long-term goal is to develop an inventory of interventions, recording for each its development status, level of use and known cost-effectiveness.

METHODOLOGIES FOR HEALTH TECHNOLOGY ASSESSMENT

If health technology assessment is to influence decisions, then it must employ valid and reliable methods for data collection, synthesis and analysis. Many methods are employed in assessments, ranging from randomised controlled trials to systematic overviews of existing research, but there remain a number of areas where improved, or even new, methods are needed if important research questions are to be tackled effectively.
For example, development of trial methods could allow them to be extended to new problems or performed at less expense, and reliable methods are needed to conduct assessments where randomised controlled trials are infeasible or unethical.

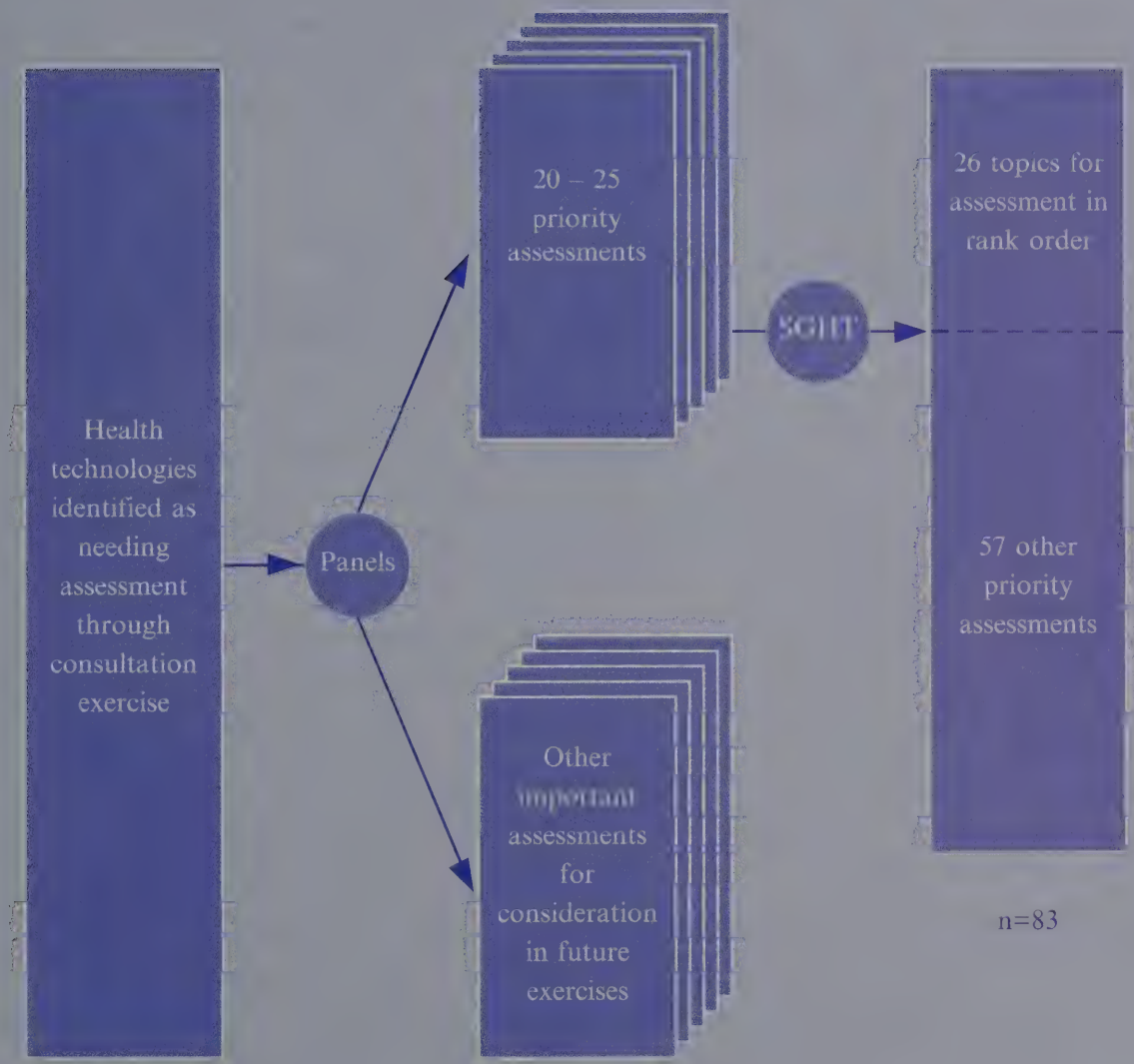
'The NHS is staffed by highly skilled and well-trained people, but in my view there are two shortcomings which the NHS HTA programme is able to address. At present there is too little enquiry into the effectiveness of the interventions routinely employed, which is compounded by many decisions concerning healthcare provision being made by managers with little or no clinical experience.

'Health technology assessment will introduce a climate of enquiry and uncertainty into healthcare, causing people to reconsider interventions in the light of information on cost effectiveness and patient outcomes. This change leads the way to a knowledge-based NHS. However, if practice is to change, it will be essential for managers to have reliable, relevant and valid information to support their decision making.

'One important way to ensure such information becomes available is for managers to become involved in all stages of the Standing Group's priority-setting process.'

Gloria Oates
Chief Executive
Oldham NHS Trust

SUMMARY OF PRIORITY-SETTING EXERCISE



'The Standing Group on Health Technology, and its ensuing programme of work, will be of considerable value to purchasers in the NHS. Individually, purchasers are unable to appraise the range of healthcare interventions covered by their contracts. Instead they rely heavily on the views of providers, who are often enthusiasts unable to give an objective opinion.

'I think that there are two things that purchasers need to do with respect to the HTA programme. One is to make themselves aware of the health technologies identified, by the Standing Group, as being of uncertain cost-effectiveness. The other is to act on the information as it becomes available from the R&D commissioned in these areas. It will be essential that this information is in a dedicated, user-friendly format – purchasers need to act on it.'

John James
Chief Executive
Kensington & Chelsea and Westminster Commissioning Agency

The Methodology Panel has reviewed these needs and drawn up an initial set of priorities for R&D into methods for health technology assessment (see the panel on page 14). Some of these will be taken forward in the course of assessments of technologies and some will require independent work to be commissioned.

In addition to addressing the needs for R&D into methods for health technology assessment, the Methodology Panel is also considering ways of promoting the appropriate use of existing methods. A series of guides is planned for researchers and those funding research, each focusing on different methodological aspects of health technology assessment.

FROM PRIORITIES TO PRACTICE

Commissioning R&D

The priorities identified by the Standing Group represent a key component of the current research needs of the NHS. The best ways that the NHS and the MRC can work in partnership in these areas, and the contribution that other research funders can make to these needs, is now being actively explored.

In addition, work in the priority areas identified by the Standing Group is now being commissioned in the research programmes funded by the NHS itself. The work needed ranges from systematic reviews of existing studies to new research. Some areas will test the ingenuity of the research community but work will only be commissioned if it promises the NHS reliable and relevant information. Some topics are being put out to open tender. However, where there is an urgent need for action and a known research team with the appropriate skills, work is being commissioned directly, in accordance with EC Directives. Funding for all work will depend upon approval by an expert commissioning group advised by independent scientific referees.

Changing practice

If health technology assessment is to change practice, decision-makers in the health service must be aware of its findings and act on them.

The UK Cochrane Centre in Oxford and the York Centre for Reviews and Dissemination are both bringing together the considerable body of information on effectiveness and cost-effectiveness that has already been generated from randomised controlled trials and other methodologically sound studies. This information is being transmitted to clinicians, patients and managers in a number of ways, and the York Centre has a specific responsibility for working with others on the development and evaluation of effective methods of information transfer.

It is one thing to know what research may have shown, but another to act on it. There are a number of mechanisms which can help to promote the use of the information provided by health technology assessment and other research. For some time, the healthcare professions have been working to develop guidelines for the care they provide and to audit their care against such clinical guidelines and other standards. The Executive of the NHS is now collaborating with the professions to promote their activities and to ensure that they are based on sound research evidence. An interesting new development is the use of research evidence on effectiveness in the contract negotiations between purchasers and providers of healthcare.

We are all more likely to use information that we have requested and for which we see the need. Thus, the Standing Group on Health Technology believes that a key factor in promoting the uptake of findings on the cost-effectiveness of health technologies is to ensure that the work commissioned reflects the needs of those who will use the information it provides. This report describes how the Standing Group is trying to achieve this.

The Group would welcome comments on its priorities or general approach from any one with an interest in using health technology assessment to improve healthcare in the NHS.

'As it is patients who are most directly affected by decisions concerning the use of healthcare interventions, it is they who have the greatest interest in these decisions being based on research evidence. Furthermore, patients – and the general public as a whole – have an interest in the NHS using cost-effective interventions because, as taxpayers, they foot the bill. Even so, patients often have little say in their choice of treatments and may not even be aware of the uncertainties that exist. To enable this, it is necessary to create an environment in which patients receive, and understand, reliable information on outcomes and use it to make choices about their own care.

'One important factor in achieving this is for patients, and organisations representing their interests, to become involved in initiatives such as the Standing Group on Health Technology so that their concerns surrounding the effectiveness of the treatments they receive are fed into the priority-setting exercise.'

Bob Gann
Director
Help for Health Trust

Priorities for health technology assessment, in rank order

Coronary artery bypass graft vs angioplasty vs medical management: Comparative effectiveness and cost-effectiveness – in chronic stable angina and/or intervention post myocardial infarction.

Screening for colorectal cancer: To assess whether examination by flexible sigmoidoscopy once at age 55-60 reduces mortality from colorectal cancer.

Stroke rehabilitation: Effectiveness and cost-effectiveness of alternative techniques of stroke rehabilitation and organisational models of care.

Myocardial ischaemia pre-intervention: Methods of demonstrating ischaemia in patients with coronary artery disease to predict the functional benefit from revascularisation procedures.

Screening for stroke through identifying and treating effectively high blood pressure: To better inform NHS decision-makers about areas where policy is clear and areas where further research is needed.

Near Patient Testing (NPT) in hospitals: To evaluate quality and cost-effectiveness of NPT in comparison with rapid transit, and conventional transit, of specimens to a centralised laboratory service.

Counselling in primary care for mental health problems: To evaluate the costs, benefits and effectiveness of counselling in primary care.

Management of mildly or moderately dyskaryotic cervical smears: To provide clear guidelines and inform policy regarding the effectiveness and relative cost-effectiveness of different referral and management policies for women with mildly or moderately dyskaryotic cervical smears.

Low back pain surgery: Effectiveness, cost-effectiveness and appropriate targeting of spinal surgery in the context of alternative approaches to the management of low back pain.

Assessment of methods for preventing deep vein thrombosis (DVT) and pulmonary embolism (PE) in patients undergoing a) total hip replacement (THR) and b) hysterectomy : To conduct two separate systematic overviews of the comparative efficacy and cost-effectiveness of the use of prophylaxis to reduce incidence of DVT and PE in patients undergoing a) THR and b) hysterectomy.

Total hip replacement: The effectiveness and cost-effectiveness of different hip prostheses in the context of other variables contributing to outcomes of total hip replacement procedures.

Effectiveness and cost-effectiveness of 'regionalisation'/'centralisation' of intensive care services for (i) adults (ii) children and (iii) neonates; identification of clinically important features of 'regionalisation' and different models of intensive care service.

The role of nurse practitioners in primary care: To evaluate the cost benefits of using nurse practitioners.

Long-term outcomes of drug use in asthma: 1) To assess the long-term risks and benefits of very early introduction of inhaled steroids
2) To assess the long-term risks
and benefits of p.r.n versus regular $ß_2$ agonists.

Near Patient Testing: General Practice: To evaluate and compare cost-effectiveness of rapid transit systems and NPT, in the light of changing laboratory service provision.

The effectiveness of physiotherapy for musculo-skeletal conditions: To evaluate the efficacy and effectiveness of physiotherapy treatments used in primary care for back pain, neck pain and arthritis.

Management of low back pain: To assess the effectiveness and cost-effectiveness of the various imaging methods in the management of patients suffering low back pain.

Menorrhagia: Comparative efficacy and cost-effectiveness of established and new treatments for menorrhagia.

Patient information: An evaluation of the cost-effectiveness of shared decision making.

24-hour primary care centres as a model for providing out of hours care: To evaluate the costs and benefits of 24-hour primary care centres compared with domiciliary night visits and drop-in A & E provision.

Prostatic carcinoma: To assess the cost-effectiveness, clinical benefit and comparative value of measurement of prostate specific antigen in serum and transrectal ultrasound in the diagnosis and management of prostate cancer.

Implementation, evaluation and monitoring of effective strategies for repeat prescribing: To evaluate the role of repeat prescribing and the systems currently utilised to manage repeat prescribing, in primary care.

Paramedic training: Effectiveness and cost-effectiveness of paramedic training and pre-hospital management protocols in trauma and other urgent care.

Antenatal screening for HIV: To assess the feasibility, costs and benefits of screening pregnant women for HIV in areas of high prevalence.

Evaluation of methods of screening for Down's syndrome: To assess the costs, benefits (from the perspective of purchasers, providers and users) and effectiveness of different methods of screening in order to inform policy.

MRI in the DGH: To identify the need, and the level of sophistication required, for MRI sited in the DGH.

Work is in hand to commission assessments in each of these areas.

'The Standing Group's priorities for HTA are, I believe, evidence of a successful exercise and I am pleased to have been a part of it, particularly because it builds on the work of the ACOST report *Medical Research and Health.*

'Although the HTA programme presents a challenge to industry, requiring them to think even more in terms of outcomes and cost-effectiveness, I don't think that this will come as any surprise. Healthcare costs have been rising across the developed world, creating the need to question the cost-effectiveness of health technologies. Indeed, the dynamics of the marketplace mean that many companies already address these issues.

'Health technology assessment, though, also offers industry and the NHS an opportunity. The opportunity to demonstrate that newer, and possibly more expensive, health technologies do actually lead to better health outcomes and long term savings for the NHS. This means that companies can better judge the returns on their investment in R&D, and the NHS can allocate resources more effectively.'

Peter Doyle
Executive Director
ZENECA Group PLC

'Markets need knowledge. Effectiveness depends upon knowledge. Justice too cannot be attained – save by accident – without knowledge.

'Fortunately the kind of knowledge needed by each of these things is common. It is the knowledge to answer questions like: does it work? for whom does it work? is there anything better? if we have this service what other service shall we not have? which is most worth the cost?

'In short, they are the questions which the R&D programme of the NHS is addressing.'

Tony Culyer
Professor of Economics
University of York

Priorities for research into methods for health technology assessment

Development of the science of critical reviews of the literature, improvement of the design of meta-analysis for overviews of randomised controlled trials and exploration of the application of critical reviews to other study designs.

Development of methods for assessing the impact of the results of HTAs and evaluation of programmes for disseminating the results of HTA.

Exploration of the use of consensus development panels for assessing health technologies and producing practice guidelines.

To assess, and increase, the generalisability of randomised controlled trials and develop techniques to assess the influence of the experience and skills of individual practitioners on the effectiveness of health technologies.

Assessment of different approaches to the measurement of outcomes (including quality of life) in HTA and development of recommendations for improvements and standardisation.

Identification of the factors which limit the quality, number and progress of randomised controlled trials in the NHS and development of recommendations for facilitating the conduct of trials in the NHS.

Comparison of the use of randomised controlled trial designs with quasi-experimental and observational studies for assessing the effectiveness of interventions and comparing quality of care.Including methods for improving and assessing the adequacy of adjustment for casemix.

Development of the use of alternative (particularly Bayesian) statistical methods including methods for handling uncertainty.

The improvement and assessment of qualitative methods for HTA.

Investigation of the theory, application and impact of different approaches to deciding the size of trials and methods of data monitoring, taking into account the effect of the HTA results on professional behaviour, in order to develop guidelines for determining sample sizes and rules for stopping a trial early.

To establish when is the optimal time to conduct HTAs and development of approaches to assessing fast-changing health technologies.

Research of approaches to developing a better understanding of how best to design and conduct questionnaires to patients and staff when assessing health technologies.

Exploration of the deeper philosophical/ethical issues which relate to design, recruitment to and conduct of randomised controlled trials in order to develop an agreed ethical framework which promotes HTA in the NHS.

Evaluation of approaches to assessing the costs of health technologies (including discounting) and development of recommendations for standard practice.

ANNEX 1

TERMS OF REFERENCE

1. To advise on priorities for health technology assessment (HTA)[1], including:

   (i) studies involving the collection and analysis of new data;

   (ii) reviews of such studies;

   (iii) reports on the current state of the development, diffusion and likely impact of new technologies;

   and having regard to:

   (a) the work of other CRDC advisory groups;

   (b) the Government's health strategy and other policy priorities for the NHS;

   (c) the likely benefits, risks, costs and broader impact of technologies;

   (d) the stage of a technology's evolution and diffusion, and the likely impact of an assessment on practice;

   (e) existing HTA findings both from work in the UK and from relevant work abroad;

   (f) any specific issue(s) on which the CRDC may seek advice.

2. To advise on new technologies where, because of their potential risk, cost, ethical implications or other relevant factors, there is a particular need to control diffusion until more information is available.

3. To advise on priorities for research into methodologies of relevance to HTA, and in particular:

   (i) methods of synthesising and reviewing existing data and findings;

   (ii) experimental and non-experimental methods of assessing effectiveness;

   (iii) economic evaluations;

   (iv) strategies and methods for assessing emerging and developing technologies;

   (v) methods which produce findings that are of relevance to as wide a range of settings as possible;

   (vi) ways of evaluating the outputs, impact and cost-effectiveness of HTA.

4. To advise on training needs in respect of the conduct of high quality HTA.

5. (i) To produce an initial report on priorities for assessments of established technologies, focusing in particular on technologies of relevance to more than one disease or patient group.

   (ii) Thereafter, to advise on priorities in relation to new and emerging technologies.

[1] HTA is used here to refer to the assessment of the effectiveness, costs and broader impact of all procedures used by health professionals to promote health, to prevent and treat disease, and to improve rehabilitation and long-term care

ANNEX 2

MEMBERSHIP OF STANDING GROUP ON HEALTH TECHNOLOGY AND ITS ADVISORY PANELS AS AT DECEMBER 1993

STANDING GROUP ON HEALTH TECHNOLOGY MEMBERSHIP

Professor Miles Irving (Chair)
Professor of Surgery, University of Manchester; Regional Director of Research and Development, North West RHA

Dr Sheila Adam
(Chair: Population Screening Panel)
Regional Director of Public Health, NW Thames RHA

Professor Anthony Culyer
(Chair: Methodology Panel)
Professor of Economics, University of York

Professor John Farndon
(Chair: Acute Sector Panel)
Professor of Surgery, University of Bristol

Professor Michael Maisey
(Chair: Diagnostics and Imaging Panel)
Professor of Radiological Sciences, United Medical and Dental Schools, London

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ANNEX 3

FURTHER PRIORITIES FOR HEALTH TECHNOLOGY ASSESSMENT[1]

Young persons' contraceptive services: To evaluate the costs, benefits and effectiveness of contraceptive services for young people.

Systematic review of wound care management: To construct a systematic review of the evidence for the effectiveness of wound management strategies, including pressure sore prevention.

Indicators of quality of prescribing in primary care: Establishment, evaluation and application of criteria which can be used as indicators of quality prescribing in primary care.

Benign prostatic hyperplasia: Comparative efficacy, effectiveness and cost-effectiveness of new (minimal access) and established treatments.

Cholecystectomy: Effectiveness and cost-effectiveness of laparoscopic vs. conventional (mini-) cholecystectomy; safety of laparoscopic cholecystectomy as a daycase procedure.

Discharge of patients from long-term outpatient care: To evaluate the costs and benefits (savings, risks) of discharging patients with chronic conditions from long-term outpatient follow up.

Strategies against smoking in children: To establish the effectiveness of anti-smoking interventions in children.

Specialist outreach clinics in General Practice: To evaluate the cost-effectiveness and benefits of outreach clinics.

Liver metastasis: Effectiveness and cost-effectiveness of systematic chemotherapy vs. alternative technologies (including alternative types of laser) vs. no treatment for liver metastasis, with particular reference to quality of life outcomes.

Screening for diabetes in selected high risk groups: An evaluation of the costs and benefits of targeted screening programmes.

Laparoscopic hernia repair: Effectiveness and cost-effectiveness of laparoscopic hernia repair vs. conventional treatments.

Management of osteoporosis: Evaluation of the cost-effectiveness and clinical benefit of bone mineral density measurement and specific biochemical markers of bone resorption.

Serious fracture units: Comparative cost-effectiveness and patient outcomes of regionalisation of serious fracture units (with reference to scoring of severity).

[1] These topics are listed in the order which resulted from a simple scoring exercise. The order should not be considered definitive but provides an indication of relative priorities.

Prevention of hip fractures: To assess the efficacy, cost and benefits of pharmacological methods, mechanical methods and exercise as methods of prevention.

Brief psychological treatments for minor depression in General Practice: To assess the cost-effectiveness and benefits of brief psychotherapy in primary care as opposed to the use of drugs.

Ultrasound: To assess the optimum use of ultrasound screening and the use of ultrasound as an investigative procedure during pregnancy and clarify the current purposes for which ultrasound screening is used in the NHS, to indicate areas where policy is clear and areas where further research is needed.

Streptokinase in acute ischaemic stroke: To assess the use of streptokinase to reduce morbidity and mortality after thrombotic stroke.

Magnetic resonance angiography: Clinical value and cost-effectiveness of magnetic resonance angiography in comparison with other invasive X-ray techniques.

Antenatal care: To evaluate the role of GPs, midwives and other primary healthcare workers in the provision of antenatal care.

Deaf children: Evaluation of the costs and effectiveness of cochlear implantation services for children (and/or adults).

Outpatient services for chronic pain control: Comparative efficacy of alternative techniques, with special reference to models and roles of specialist pain clinics.

Angioscopy: Comparative efficacy and cost-effectiveness of angioscopy therapy and atherectomy vs. percutaneous angioplasty and femoro-distal bypass.

Hospital at home and community 'nursing beds': To evaluate community nursing provision consequent on early hospital discharge.

The influence of prescribing by hospitals on drug use in primary care: To describe the nature of, and to quantify the extent of, the influence of hospital prescribing on treatment patterns in primary care; to identify effective strategies for better integration of prescribing policies between primary and secondary care.

Heart disease in women – strategies for treatment: To assess the long-term outcomes of oestrogens in women with established heart disease.

Reducing pre-term births: Effectiveness and cost-effectiveness of alternative strategies for reducing pre-term births and their adverse consequences.

Overview of screening for cystic fibrosis and haemoglobinopathies: To review current research and practice to develop a structured framework for decision-making about policy and research.

Rehabilitation services for younger disabled people: To evaluate the benefits and cost-effectiveness of rehabilitation services for (non-elderly) disabled people.

Efficacy of newer vs. established antihypertensive drugs: To compare the efficacy of newer antihypertensives, eg ACE inhibitors and calcium channel blockers, with low dose thiazides in achieving useful endpoints.

Managing psychiatric disorder in the community: To identify cost-effectiveness and benefits of brief psychotherapy in primary care as opposed to the use of drugs.

The long-term use of second-line drugs in rheumatoid arthritis: To compare the risks and benefits of long-term second-line drugs in patients with relatively severe rheumatoid arthritis with placebo.

Guidelines for managing urinary incontinence in primary care settings: To evaluate the benefits, cost-effectiveness and acceptability of alternative intervention strategies for urinary incontinence.

PET scanning of patients with lung cancer: To assess cost-effectiveness in comparison with more conventional methods.

Nursing intervention: Comparative effectiveness and cost-effectiveness of different levels of nursing skill and training.

Comparison of new anti-epileptic drugs with existing therapies: To compare the safety and efficacy of the newer anti-epileptics as monotherapy with the existing therapies.

A comparison of the new antidepressants with established drugs: To examine whether or not the perceived advantages – of tolerability, safety and quality of life – of the newer antidepressants are realised in everyday clinical practice.

Adult survivors of abuse: Effectiveness of alternative specialised strategies for treating adult survivors of childhood sexual abuse.

Computer and robotic systems in the clinical laboratory: To assess the cost-effectiveness of introducing such systems into pathology laboratories, particularly in the pre-analytical phase of laboratory testing.

Systematic overview of the risks and benefits of home total parenteral nutrition: To assess the risks and benefits of total parenteral nutrition at home.

Screening for fragile X: To better inform NHS decision-makers about areas where policy is clear and areas where further research is needed.

Picture archiving and communications systems: To assess cost-effectiveness compared with current methods and the practicality of implementation.

Management of end-stage renal disease: Effectiveness and cost-effectiveness of alternative schedules of conventional haemodialysis and the use of more permeable membrane technology in dialysis machines.

Spiral CT imaging: To assess the cost-effectiveness of the new generation of CT imaging systems in comparison with conventional X-ray CT.

Routine domiciliary visiting by health visitors: To evaluate the benefits and cost-effectiveness of routine domiciliary visits as a means of supporting mothers and reducing childhood mortality.

Community provision of hearing aids: To evaluate the effectiveness and cost-effectiveness of community provision of hearings aids.

Bone marrow compatibility tests: To evaluate outcome and cost-effectiveness of cellular versus molecular matching techniques.

Non-isotopic in situ hybridisation (NISH) in cytogenetics: To better inform NHS decision-makers about the current use of NISH and the new diagnostic opportunities which it offers.

Neonatal screening for inborn errors of metabolism: To assess the burden of the disease and the evidence for effective intervention, and to identify further questions for research.

Complementary medicine in primary care settings: To compare effectiveness, cost-effectiveness and benefits of complementary medicine (CM) with other interventions in primary care.

Expert systems in pathology: To assess the effectiveness of expert systems in implementing test request protocols within General Medicine and Surgery.

Screening for abdominal aortic aneurysm: To assess whether screening for abdominal aortic aneurysm leads to reduced mortality.

Ondansetron in post-operative nausea and vomiting: To compare the efficacy and cost-effectiveness of ondansetron with established antiemetics in post-operative nausea and vomiting.

Screening for melanoma: To assess the burden of the disease and the evidence for effective intervention, and to identify the key questions for research.

Primary healthcare for people with learning disabilities: To evaluate the efficacy, effectiveness and cost-effectiveness of primary healthcare intervention for people with learning disabilities.

The use of health advocates: To evaluate the effectiveness, costs and benefits of using health advocates for elderly people, black and ethnic minorities, homeless people, travellers, and refugee groups.

The evaluation of the ethnic factors in drug utilisation and compliance: Comparison of effectiveness of alternative methods for providing advice and information on clinical management and treatment plans to ethnic minorities.

FST 11/7/94

Langlands improved knowledge base – R+D, clinical audit, effectiveness + outcome measures
└ foresight, understanding, dissemination, evaluation, awareness of other countries

Irving Chr Henshaw – leading official

The problems: practice variations, outdated treatments, new treatments. — banned until evaluated

Evaluation bypass — commercial pressures, enthusiasms, obstacles. Most new HTs currently take this route

Efficacy vs effectiveness — principle vs practice

DoH Rpt: Assessing Effects of HTs (Ghanee)

ACOST Rpt – Medical Rsch + Health (Doyle)

"Tidal Wave: New tech medicine and the NHS"

Permt Secretariat – S'hampton, Prof Gabay's Dept

MRC?
NHS Health Services and Research Board

R+D Initiative — Oxford, Canada, Copenhagen, Baltimore, Adelaide, Milan, Lyon

Peckham

Cochrane and York Centres – for existing rsch knowledge
1992 1993

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How do they order these things in W, S, NI?

Discussion

Danger of too many second-rate studies? Cochrane Collaboration

Do other health service has brought R+D into top mgmt.

SIGWIDER Review of SIFTR + Culyer Taskforce

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